

Acknowledgements

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Avifaunistic results of a subtropical camp in the Cordillera del Condor, southeastern Ecuador

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Previous ornithological work in the higher parts of the Cordillera del Condor has been confined to the southern (Peruvian) end, where joint field parties from Princeton University and Louisiana State University in the 1970s visited areas between 1900 and 2400 m near San José de Lourdes, Department of Cajamarca (Fitzpatrick *et al.* 1977, 1979, Fitzpatrick & O'Neill 1979, 1986). They never published their

complete species list, but their list was used by Robbins *et al.* (1987) for making comparative lists of differences between the avifaunas of the Cordillera del Condor and the mountains immediately to the north (Cordillera de Cutucú) and southwest (Cerro Chinguela). During the late 1980s the Western Foundation for Vertebrate Zoology made a large (still unpublished) collection of birds from the upper tropical zone in various Ecuadorean parts of the Cordillera del Condor. However, the higher parts of the central and northern end of the range remained unexplored. We report here the results of an expedition to near the crest of the middle portion of the mountain chain. The first records were obtained of three species for Ecuador. A comparison with the avifauna of the cordillera de Cutucú reveals even greater similarity than previously suggested.

General description of the region

The Cordillera del Condor is a semi-isolated mountain-range separated from the main Andean chain to the west by the Río Zamora valley. The northern end of the mountains is especially isolated by a pass less than 1500 m in elevation. The range has a large number of peaks and ridges with steep slopes, and is entirely covered with humid forest. The soil in the area visited was composed of reddish-brown, orange or in a few places greyish clay mixed with gravel and sand, and with little or no stratification. Above San José de Lourdes in Peru the soil is of bleached quartz sand, and this area also differs from the more northerly parts by being in close proximity to the arid Marañón valley. Along the western base of the central Cordillera del Condor, forest clearance is nearly complete up to an elevation of about 1200 m, while the forest appears to be almost entirely intact above that elevation.

Sites and methods

From 8 to 24 September 1990 the authors investigated a ridge at 1700 m on the west slope near the top of the Cordillera, which here only reaches 1900 m. The study site covered *c.* 2 ha, and was situated between La Punta and Chinapinza at *c.* 04°00'S 78°34'W. The crest of the knife-like ridge studied seemed to have a cooler microclimate than the immediately adjacent slopes, with vegetation only two metres high and covered with *Sphagnum* and other mosses, thus much resembling the vegetation on the crest of the Cordillera del Cutucú (see Robbins *et al.* 1987). On the steeper slopes of the study area trees grew only 10–20 m high, while on the moderately steep slopes some trees were 30 m or even taller. A few small patches of bamboo were present. According to local people at Paquisha, September is the driest time of the year, and we experienced but four rainy days during our two weeks of work, most days being sunny with clear skies. This contrasts with published results from Zamora (970 m) some 50 km west-southwest of Paquisha, where rainfall peaks in March, September, and early January, lows being in February, July and November (Cañadas 1983). Temperatures at the camp at 1700 m ranged from 10–13°C at night to 15–24°C by day.

The work included tape-recording of vocalizations, uninterrupted for 10–20 minutes at dawn as well as for shorter periods at various times of the day, and the collecting of blood-samples and study-skins. Measures of abundance were obtained by using vocal data as well as captures and sightings, and they may thus not reflect true density. Song activity was generally low during the study, so several species undoubtedly went unencountered. On the other hand the tanagers were not as secretive as during nesting, so they were probably well-recorded. The specimens taken were secured with a combined length of 207 m of mist-nets from dawn to dusk, and fire-arms. Sound-recordings are deposited with Bioakustisk Laboratorium, Århus University, Denmark, and British Library of Wildlife Sounds, London; study-skins in Museo Ecuatoriano de Ciencias Naturales, Quito, Academy of Natural Sciences, Philadelphia, and Zoological Museum, University of Copenhagen; blood-samples for DNA studies in the latter institution.

Survey results

Altogether 114 species were recorded in the study area, 192 specimens of 85 species were taken as study skins, and 178 blood samples were extracted. The species recorded are listed in the appendix. Except for recently described species, taxonomy and nomenclature follow Meyer de Schauensee (1970). The following deserve special attention.

WHITE-BREASTED PARAKEET *Pyrhura albipectus*

What was presumed to be the same flock of five birds was observed feeding daily near the camp, and a few times two other flocks of five and twelve birds, respectively, visited the area briefly. All birds seen were in similar, adult plumage. Five identifications of food-plants were all of the inflorescences of a slender, woody vine *Piptocarpha* cf. *poeppigiana* (Compositae). This vine climbs young trees, and in some cases the parrots would climb down as low as 1–2 m above the ground to feed. Two specimens had stomachs crammed with these flowers. Usually the flock seemed indifferent to human presence and allowed close approach. The species was previously known only from tall humid forest and second growth in Cordillera de Cutucú and the region above (west of) Zamora (Robbins *et al.* 1987), and from an unpublished specimen (WFVZ) taken further south in Cordillera del Condor at Pachicutza, 1000 m (c. 04°08'S 78°40'W), in August 1989 (M. Marin verbally 1991). In view of its distribution over a length of 200 km in the relatively untouched Cordilleras de Cutucú and del Condor it should probably not be considered immediately threatened as feared by Collar & Andrew (1988).

Specimen data: adult ♀ (ANSP 183065; blood sample NK12-19.9.90) 77.3 g, ovary granular, tail worn, wings fresh; adult ♀ (MECN; NK1-13.9.90) 83 g, ovary medium, oviduct curled, plumage fresh.

CINNAMON SCREECH-OWL *Otus petersoni*

Despite almost nightly owl-hunts this was the only owl recorded at our camp. It was remarkably common, and no less than four singing

males were collected from the same few trees during the two weeks. Three stomachs were full of insects, mainly large beetles. The previously published four localities are in southeastern Ecuador and on both sides of the Río Marañón in northern Peru (Fitzpatrick & O'Neill 1986). It may be found to range northwards into Colombia, as suggested by an old "Bogotá" trade skin (ANSP).

Specimen data: ♂ (ANSP 183100; NK11-20.9.90) 102 g, testes medium-small, plumage fairly grey; ♂ (MECN; NK17-17.9.90) 99 g, testes medium, plumage very red; ♂ (MECN; NK9-10.9.90) 105 g, testes medium, plumage intermediate.

BUFF-BROWED FOLIAGE-GLEANER *Syndactyla rufosuperciliata*

Two specimens taken at 1700 m represent the first records for Ecuador. The species was previously known north to the southern end of Cordillera del Condor (Robbins *et al.* 1987) and Cerro Chinguela in northern Peru, where it was found at 2250–2450 m (Parker *et al.* 1985). The closely related Lineated Foliage-gleaner *Syndactyla subalaris* was captured in the same nets at our camp. Although ranging as high as 2600 m in the northern part of its range, *subalaris* replaces *rufosuperciliata* at lower elevations where the two coexist from Cordillera del Condor to central Peru (Parker *et al.* 1985, Fjeldsæ & Krabbe 1990).

Specimen data: ♀ (ANSP; NK5-16.9.90) 32.5 g, skull ossified, ovary active; ♂ (MECN; NK4-14.9.90) 30.3 g, skull 75% ossified, testes enlarged.

CINNAMON-BREASTED TODY-TYRANT *Hemitriccus cinnamomeipectus*

This poorly known and recently described species was previously known from 1800–2200 m at three localities on both sides of Río Marañón in northern Peru (Fitzpatrick & O'Neill 1979). One was observed singing at 0700 hrs in the two metre tall vegetation on the mossy ridge at our camp. It sang hidden at midheight and appeared to defend a territory *c.* 15 m long (the length of this isolated patch of habitat). The bird, an adult male, responded vigorously to playback of its song. It was collected, and later a female and two other males were netted at the same spot. These specimens represent the first record of the species in Ecuador and double the length of the known range to some 200 km. The habitat closely resembles that at 2100 m on the crest of Cordillera de Cutucú, where the Black-throated Tody-tyrant *H. granadensis* is fairly common. The two may have very similar ecologies. Both are found at *c.* 2200 m near Abra Patricia, Departments of Amazonas and San Martín, Peru (Fitzpatrick & O'Neill 1979, Davis 1986), but *granadensis* generally occurs at higher elevations.

Specimen data: ♀ (MECN; NK4-13.9.90) 7.3 g, skull 30% ossified, ovary granular, oviduct curled, stomach-content tiny insects (saved); ♂ (MECN; NK1-12.9.90) 9.2 g, skull 40% ossified, no bursa, testes medium, stomach-content tiny insects; ♂ (ANSP 183436; NK6-12.9.90) 9.2 g, skull ossified, testes medium, stomach-content insects; ♂ (ANSP 183437; NK10-21.9.90) 8.9 g, skull 70% ossified, no bursa, testes medium, stomach-content insects.

BAR-WINGED WOOD-WREN *Henicorhina leucoptera*

This recently described species was only known from northern Peru on both sides of Río Marañón (Fitzpatrick *et al.* 1977, Davis 1986). It was fairly common at our camp, and was also seen higher up, near

Chinapinza at 1900 m. The length of its known range was thus extended from 400 to 500 km. The Grey-breasted Wood-wren *Henicorhina leucophrys* reached its highest elevation at our camp, and the two species were captured in the same nets at 1700 m. *H. leucoptera* has been recorded on a low-lying ridge (1350–1450 m) in San Martín (Davis 1986), elsewhere occurring at 1700–2450 m (Fitzpatrick *et al.* 1977, Davis 1986). Although apparently co-occurring with *leucophrys* at all its known localities, *leucoptera* generally seems to replace that species at higher elevations. Among the 11 specimens of *leucoptera* collected were two in true juvenal plumage. The only description of a young bird (Fitzpatrick *et al.* 1977) seems to be based on a specimen partly in its first basic plumage. Our birds differ from that description by having only a faint supercilium, by being dark on the cheeks, by having the entire underside dark, feathers of throat, breast and belly dark grey with dark umber-brown tips that increase in extent posteriorly, sides of breast, sides, and flanks dark umber-brown, belly and under tail-coverts dark cinnamon. There is no wing-bar, but the edges near the tips of the outer webs of the two alula feathers are white, a character not found in juvenile *leucophrys*. The basal two-thirds of the mandible are yellow.

Specimen data: ♀ (MECN; NK5-11.9.90) 14.0 g, skull ossified, ovary granular; ♀ (ZMUC; NK16-19.9.90) 14.9 g, skull ossified, no bursa, ovary granular, oviduct straight; ♀ (ANSP 183482; NK9-12.9.90) 16.8 g, skull ossified, ovary granular; ♂ (MECN; NK4-17.9.90) 14.4 g, skull 90% ossified, bursa 1 × 2 mm, testes medium to small; ♂ (ZMUC; NK3-13.9.90) 16 g, skull ossified, testes medium to small; ♂ (ANSP 183484; MK5-17.9.90) 16 g, skull ossified, testes medium; ♂ (ANSP 183481; NK3-11.9.90) 14.5 g, skull ossified, testes small; juvenile ♂ (MECN; NK12-11.9.90) 14.8 g, skull unossified, bursa 1 × 4 mm, testes small; juvenile ♂ (ANSP 183482) 13.1 g, skull 50% ossified, bursa 3 × 2 mm, testes small. Skeleton (ZMUC; NK11-17.9.90).

METALLIC-GREEN TANAGER *Tangara labradorides chaupensis*

Several pairs were seen near our camp at 1700 m. One taken on 17 September represents the first specimen of this race from Ecuador. There are previous sightings from Morona-Santiago in southeast Ecuador (Ridgely 1980), otherwise the taxon is known only from both sides of Río Marañón in northern Peru.

Specimen data: unsexed (MECN; NK16-17.9.90).

Discussion

Robbins *et al.* (1987) listed 24 species recorded between 1900 and 2400 m in the Cordillera de Cutucú and not at similar elevations in the Cordillera del Condor, and believed 10 of these to be genuinely absent. On the present expedition 11 or 12 of the 24, including 3 thought to be absent, were found by us near Chinapinza in the Cordillera del Condor. It seems possible that an investigation of a number of localities in these mountains would reveal the presence of most or all of the remaining 12.

Although no species is endemic to the Cordillera del Condor, several upper tropical and subtropical zone forms with restricted ranges are found here. All but one, *Pyrrhura albipectus*, also occur south of Río Marañón in northern Peru. The Royal Sunangel *Heliangelus regalis* was not found in our study area. It is known from Peru at the type-locality

above San José de Lourdes, Department of Cajamarca, at 1800–2200 m and from the Department of San Martín at 1450 m, where it has been found in stunted forest and along forest-edge (Fitzpatrick *et al.* 1979, Davis 1986). It undoubtedly occurs on some of the higher ridges in the Ecuadorean part of Cordillera del Condor. The Orange-throated Tanager *Wetmorethraupis sterrhopteron* is only known from epiphyte-laden trees in tall humid forest at 600–1000 m on the lower slopes of Cordillera del Condor and on the immediately adjacent slope south of Río Marañón (Lowery & O'Neill 1964, O'Neill 1969, Isler & Isler 1987). The Cinnamon-breasted Tody-tyrant was considered a part of a relict species-group by its describers (Fitzpatrick & O'Neill 1979), and a close relative of the Royal Sunangel is presently being described on the basis of old Colombian specimens (G. Graves in press). However, the White-breasted Parakeet seems to have no very close allies, there being distinctive differences in vocalisations (as well as plumage) between that and the Maroon-tailed Parakeet *Pyrrhura melanura berlepschi* (NK tape-recordings). The Orange-throated Tanager is so distinct that it was placed in a monotypic genus by its describers.

In view of the many species and subspecies having distributions ending at the Río Marañón, it is interesting to note that most of the endemic birds occur on both sides of the river. This suggests the presence of unique or rare habitats in the region. Whether any of the birds actually evolved *in situ*, remains open to speculation, but as their very restricted ranges now encompass the Cordillera del Condor, it is evident that these mountains deserve special consideration from conservationists.

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APPENDIX

Species recorded at the camp between La Punta and Chinapinza in Cordillera del Condor at 1650-1700 m. Abundance: C=common, recorded daily in moderate to large numbers (>10 individuals); FC=fairly common, recorded daily in small numbers (<10 individuals); U=uncommon, recorded on one out of three days, occurs in small numbers; R=rare, recorded on one of six days or less often, occurs in small numbers. Species tape-recorded but not collected are marked with a t. Species only sighted are marked with an *.

Elanoides forficatus FC*, *Ictinia plumbea* FC*, *Buteo magnirostris* FC, *Micrastur ruficollis* FCt, *Chamaepetes goudotii* once at 1400 m, *Columba subvinacea* FCt, *Geotrygon frenata* R*, *Pyrrhura albipectus* FC, *Pionus sordidus* Ut, *Amazona mercenaria* FCt, *Piaya cayana* FC, *Otus petersoni* FC, *Streptoprocne zonaris* U*, *Cypseloides rutilus* FC*, *Chaetura cinereiventris* R, *Chaetura brachyura* R*, *Doryfera ludovicica* FC, *Phaethornis guy* U, *Phaethornis syrmatorophorus* U, *Eutoxeres aquila* U, *Adelomyia melanogenys* C, *Urosticte benjamini* R, *Colibri coruscans* R, *Colibri thalassinus* R, *Heliodoxa leadbeateri* FC, *Coeligena coeligena* FC, *Boissonneaua matthewsii* FC, *Haplophadia aureliae* U, *Ocreatus underwoodii* FC, *Agelaiocercus kingi* FC, *Pharomachrus antisianus* Rt, *Trogon personatus* FC, *Malacoptila fulvogularis* U, *Eubucco bourcierii* R, *Aulacorhynchus prasinus* Ut, *Piculus rubiginosus* Rt, *Veniliornis fumigatus* FC, *Sittasomus griseicapillus* Rt, *Xiphocolaptes promeropirhynchus* R, *Xiphorhynchus triangularis* FC, *Synallaxis unirufa* Ut, *Premnoplex brunescens* FC, *Pseudocolaptes boissonneauti* FC, *Hylocistis subulatus* R, *Syndactyla subularis* FC, *Syndactyla rufosuperciliata* U, *Anabacerthia striaticollis* FC, *Philydor erythrocercus* R, *Thripadectes* sp. R*, *Xenops rutilans* R, *Thamnophilus unicolor* FC, *Dysithamnus mentalis* FC, *Myrmotherula schisticolor* FC, *Drymophila caudata* FC, *Formicarius rufipectus* FCt, *Grallaria haplonota* FCt, *Grallaria hypoleuca* Uh, *Scytalopus femoralis* FC, *Zimmerius viridiflavus* C, *Mionectes striaticollis* FC, *Mionectes olivaceus* U, *Phylloscartes* sp. cf. *superciliaris* R*, *Pogonotriccus* sp. cf. *gualaquizeae* R*, *Pseudotriccus pelzelni* FC, *Lophotriccus pileatus* C, *Hemitriccus cinnamomeipectus* U, *Platyrinchus mystaceus* R, *Myiotriccus ornatus* FC, *Myiophobus flavicans* FC, *Pyrrhomys cinnamomea* FC, *Contopus borealis* R*, *Myiarchus cephalotes* FC, *Myiodynastes chrysocephalus* R*, *Tyrannus melancholicus* R*, *Pipreola riefferii* FC, *Pipreola lubomirskii* FC, *Pipreola frontalis* FC, *Schiffornis turdinus* FCt, *Chloropipo unicolor* U, *Chloropipo holochlora* R*, *Masius chrysoterpis* FC, *Notiochelidon cyanoleuca* Ct, *Cyanocorax yncas* R, *Cinnycerthia peruana* FC, *Troglodytes solstitialis* FC*, *Henicorhina leucophrys* FC, *Henicorhina leucoptera* C, *Myadestes ralloides* FC, *Turdus fulviventeris* FC, *Cyclarhis gujanensis* FC, *Myioborus miniatus* C, *Basileuterus tristriatus* FC, *Coereba flaveola* FC, *Chlorochrysa calliparaea* FC, *Tangara labradorides* FC, *Tangara arthus* FC, *Tangara xanthocephala* FC, *Tangara parzudakii* FC, *Tangara cyanicollis* FC, *Tangara nigroviridis* FC, *Iridosornis analis* C, *Euphonia xanthogaster* C, *Anisognathus flavinucha* C, *Calochaetes coccineus* FC, *Piranga leucoptera* R*, *Creurgops verticalis* U, *Chlorospingus ophthalmicus* FCt, *Chlorospingus canicularis* FC, *Pitylus grossus* FC, *Pheucticus chrysophephus* R, *Diglossa glauca* C, *Carduelis olivacea* R*, *Oryzoborus angolensis* R, *Atlappetes brunneinucha* FC.